Oklahoma NRCS Cost-Share Lime And Fertilizer Recommendations

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This recommendation is prepared for NRCS cost-share on establishment of grasses. The cost- share is for the purpose of conservation and erosion control. The amounts of lime and fertilizers recommended are different from those of regular OSU recommendations (Fact sheet 2225). Therefore, there are special instructions that must be used when submitting soil samples for grass establishment using NRCS cost-share to the Soil, Water and Forage Laboratory. This will distinguish the NRCS cost-share establishment recommendation from other OSU fertility recommendations.

When soil samples are sent to the lab for an NRCS cost-share program *you must mark the OSU sample tag correctly* by first selecting a grass and then put double "**&&**" signs or write "**NRCS**" above the yield goal as shown in the example below:

Grasses

_____Fescue (9)
__X___Bermudgrass (13)
_____Native Hay (25)
_____Blue Stem (34)

&& or NRCS
(tons/A)

AGLIME

A major change has been made in aglime recommendations as a result of recent research identifying a much lower lime rate required to neutralize acid soils for grass seedlings. For cost share purposes, grasses may be seeded without liming when a soil test taken *within the last three years* shows the soil pH to be 5.0 or greater. Weeping lovegrass and fescue may be seeded without liming when the pH is 4.5 or greater. When the soil pH is below these critical values, *aglime should be applied*. The amount of lime required is that needed to reduce metal toxicity (aluminum and manganese). Recent research has shown that 0.5 ton per acre of ECCE lime or ¼ of the amount identified by the BI to raise the pH to 6.8, *whichever is greatest*, is sufficient. Cost-share will now be limited to these new recommended rates of aglime. In many instances this is much less than what has been recommended in the past. The higher amounts used in the past are still appropriate if legumes are being planted.

FERTILIZER

Adequate supplies of phosphorus (P) and potassium (K) are necessary for seedling grass stands to successfully compete with weedy plants more tolerant of infertile soils and to survive environmental stresses such as drought and harsh winters. Many eroded and sparsely vegetated areas are inherently infertile and cannot be successfully revegetated unless soil fertility is improved.

Adequate P and K for seeding is assured by *either*:

1. **A recent soil test identifying that P and K are adequate.**
2. **Applying the deficiency amounts of P and K (P_2O_5 and K_2O up to 40 lbs/acre of each nutrient) identified by a recent soil test.**

Available soil nitrogen (N) stimulates plant growth. For a new plantings of grasses that respond to improved N availability, added N can provide them a competitive advantage. However, since many seedings will be of grasses that do not respond vigorously, the policy on N fertilization is being modified as follows:

1. **Unless the most recent soil test was taken *within the previous 60 days*, the amount of available nitrogen in the soil should be considered to be *zero*.**
2. **"N" *will not be recommended* for introduced bluestems or native grass plantings. (No cost-share will be provided for N applied incidental to P_2O_5 and K_2O needs). A maximum of 40 lbs/ac. N (soil test plus fertilizer N) is recommended for establishing other grasses.**

Cost share will still be limited to 40 lbs/ac each of N, P_2O_5 and K_2O as required and applied under the above conditions and procedures. A summary of the aglime and fertilizer calibrations used for Cost-share programs in Oklahoma are given in the following table:

Oklahoma NRCS Cost-Share Lime and Fertilizer Recommendations

	Buffer Index[1]	ECCE Lime
		Tons/ac
Aglime	7.2 to 6.6	0.5
	6.5	0.6
	6.4	0.8
	6.3	0.9
	6.2	1.0
	6.1	1.2
	6.0	1.4

Nitrogen[3]	Soil Test N[2]	N Needed
	lbs/ac	lbs/ac
	0	40
(Species other than	10	30
introduced bluestems	20	20
and native grass plantings)	20+	0

Phosphorus[3]	Soil Test P	Bermudagrass	Fescue	Intro. Bluestem, Lovegrass	Native Grasses
		lbs P_2O_5/ac			
	0	40	40	40	40
	10	40	40	40	20
	11+				0
	20	40	40	30	0
	40	20	30	20	0
	41+	0		0	0
	48	0	20	0	0
	49+	0	0	0	0

Potassium[3]	Soil Test K	Bermudagrass	Fescue	Intro. Bluestem, Lovegrass	Native Grasses
		lbs K_2O/ac			
	0	40	40	40	40
	75	40	40	40	30
	125	40	40	40	20
	126+				0
	200	30	30	20	0
	201+			0	0
	216	20	20	0	0
	217+	0	0	0	0

[1]Lime is recommended when soil pH is less than 4.5 for fescue and lovegrass, and less than 5.0 for other grasses.
[2]Nitrogen soil test values are only valid if test is within last 60 days. Assume nitrogen soil test of zero when old tests are used.
[3]Nutrient recommendations of less than 20 lb/ac will not be made.

Revised September 2002 from Gordon Johnson and Jerry Rogers (1991) ACP-CRP-ECP Lime and Fertilizer Cost-share Recommendations.